Practical Test Group 9

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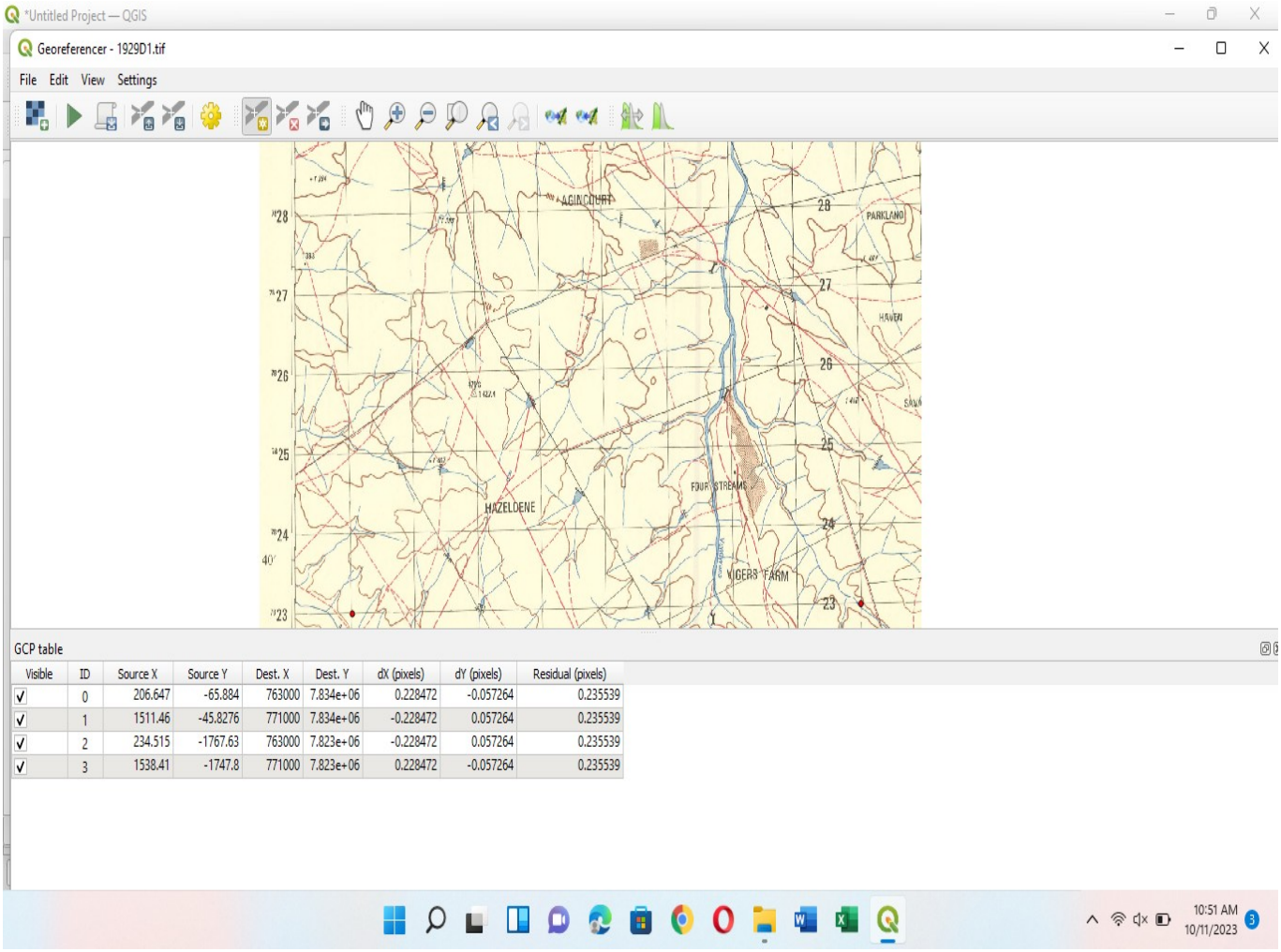
INTRODUCTION

This practical is mainly focused on geo map referencing, digitization of all major rivers, digitization of all small dams and identify their coordinates and digitizing all farm boundaries and measures the farm sizes

APPARATUS

~Scanned map

~QGIS application



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☑	0	206.647	-65.884	763000	7.834e+06	0.228472	-0.057264	0.235539
☑	1	1511.46	-45.8276	771000	7.834e+06	-0.228472	0.057264	0.235539
☑	2	234.515	-1767.63	763000	7.823e+06	-0.228472	0.057264	0.235539
☑	3	1538.41	-1747.8	771000	7.823e+06	0.228472	-0.057264	0.235539

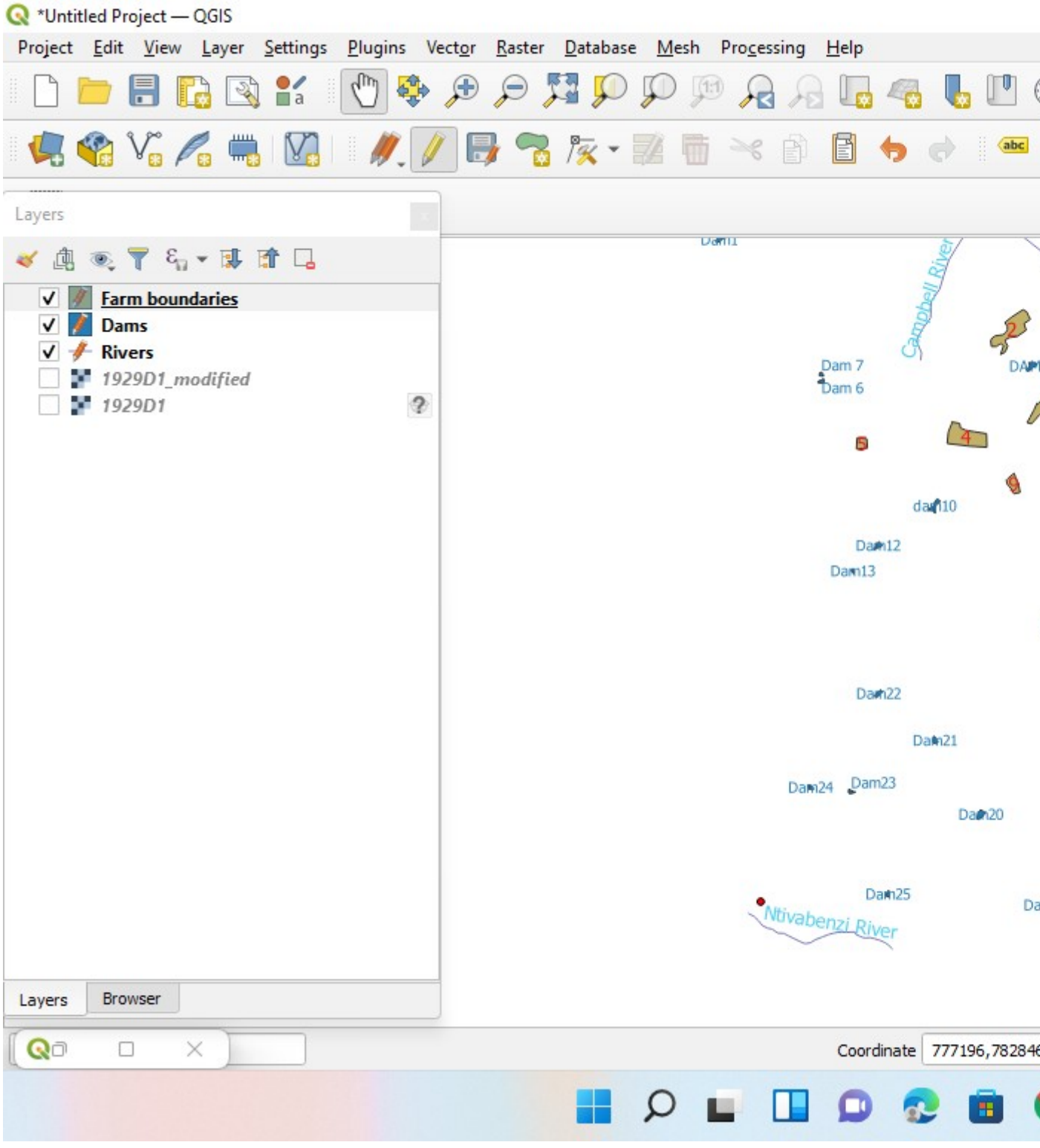
*Untitled Project — QGIS

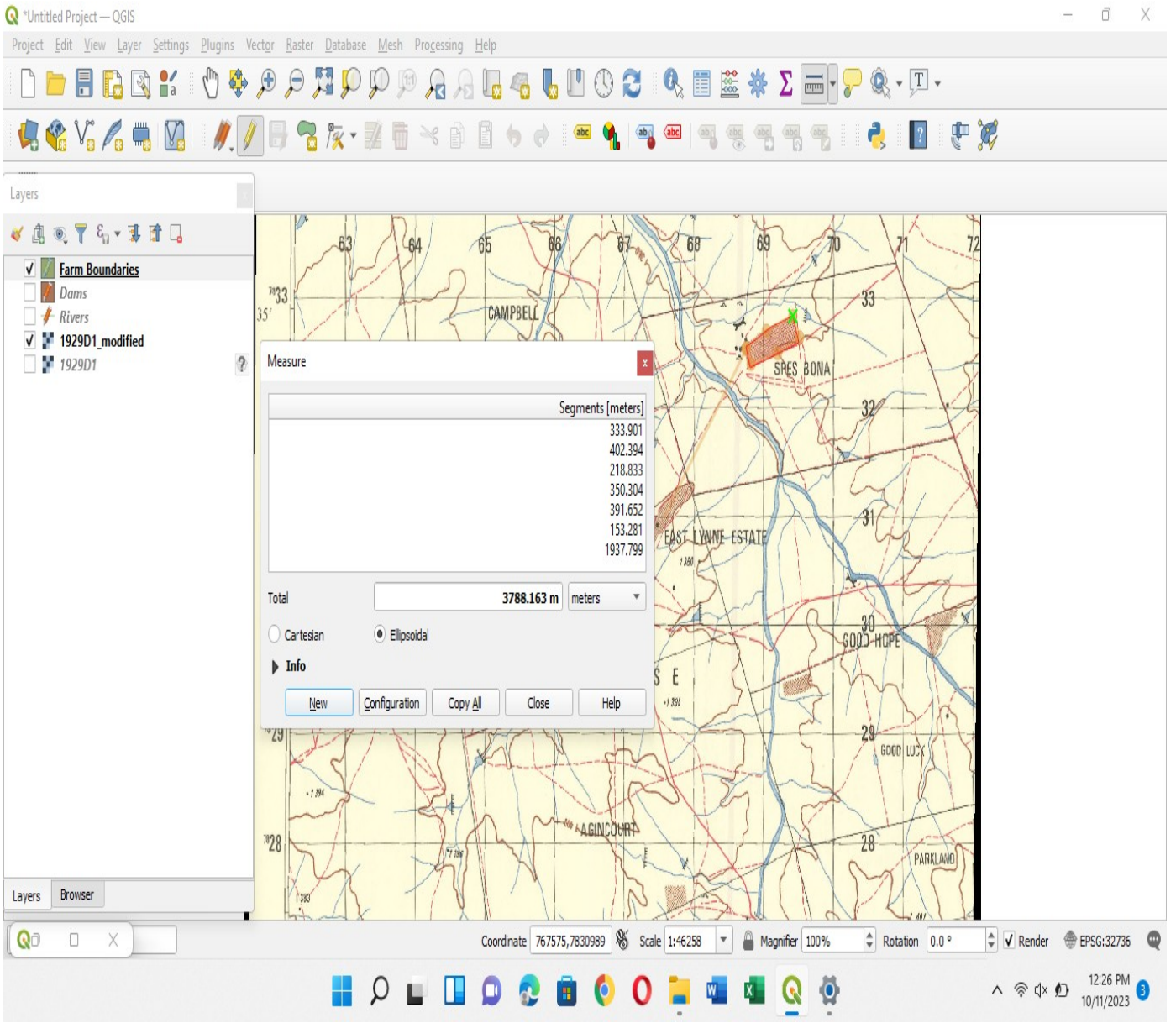
Georeferencer - 1929D1.tif

File Edit View Settings

GCP table

Visible	ID	Source X	Source Y	Dest. X	Dest. Y	dX (pixels)	dY (pixels)	Residual (pixels)
☑	0	206.647	-65.884	763000	7.834e+06	0.228472	-0.057264	0.235539
☑	1	1511.46	-45.8276	771000	7.834e+06	-0.228472	0.057264	0.235539
☑	2	234.515	-1767.63	763000	7.823e+06	-0.228472	0.057264	0.235539
☑	3	1538.41	-1747.8	771000	7.823e+06	0.228472	-0.057264	0.235539


*Untitled Project — QGIS
Project Edit View Layer Settings Plugins Vector Raster Database Mesh Processing Help
Layers
Farm boundaries
Dams
Rivers
1929D1_modified
1929D1
Layers
Browser
Campbell River
Dam 7
Dam 6
Dam12
Dam13
Dam22
Dam21
Dam24
Dam23
Dam25
Ntivabenzi River
Coordinate


*Untitled Project — QGIS
Project Edit View Layer Settings Plugins Vector Raster Database Mesh Processing Help
Layers
Farm Boundaries
Dams
Rivers
1929D1_modified
1929D1
Measure
Segments [meters]
333.901
402.394
218.833
350.304
391.652
153.281
1937.799
Total
3788.163 m
meters
Cartesian
Ellipsoidal
Info
New
Configuration
Copy All
Close
Help
CAMPBELL
SPES BONA
EAST LYNNE ESTATE
GOOD HOPE
GOOD LUCK
AGINCOURT
PARKLAND
Layers
Browser
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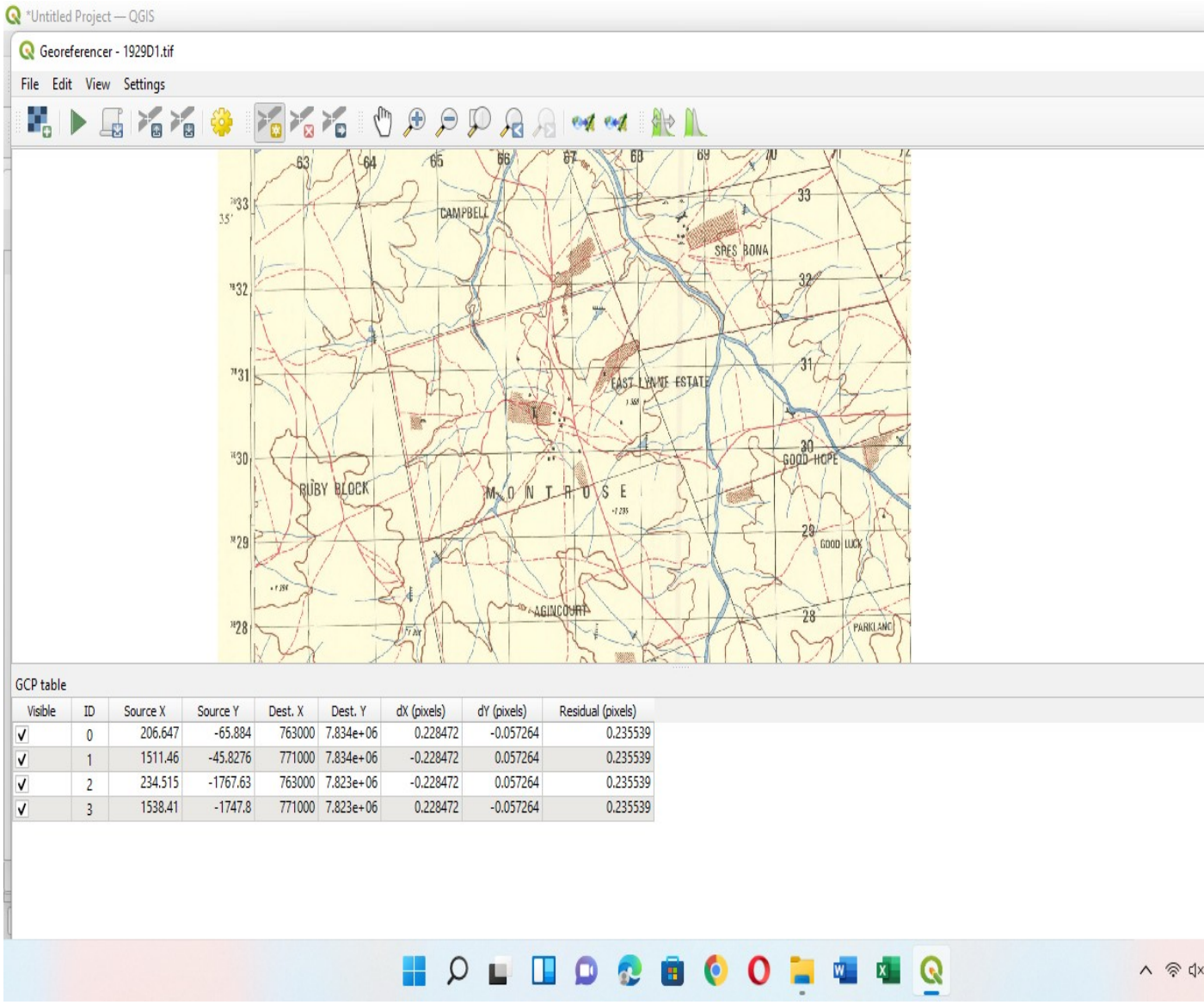
Scale 1:46258
Magnifier 100%
Rotation 0.0 °
Render
EPSG:32736
12:26 PM
10/11/2023



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CONCLUSION

After georeferencing we encountered an error of **0,471077** which deviated too close to the mean giving us a clear indication that we had slight error. So our georeferencing process was successful.

QUESTIONS

Question 1: Georeference the map and report on the RMSE [25 Marks]
Question 2: Digitize all the major rivers on the map and record their names. [25 Marks]
Question 3: Dititize all the small dams on the map and give their coordinates. [25 Marks]
Question 4: Digitize all the farm boundaries and report the size of all farms. [25 Marks]
All digitized layers should be saved in one folder named "*Groupname*_Answers"

Zip the folder and submit